VELOPEX®

Automatic X-Ray Film Processor

VELOPEX® md3000



USER MANUAL

Operation and Maintenance manual

Register your machine by returning the Warranty Card to enable full customer support.

VELOPEX® INTERNATIONAL

www.velopex.com

Hi-Tech Diagnostics Service

MAKERS OF DENTAL, VETERINARY AND MEDICAL EQUIPMENT

Machine serial number to be quoted on all correspondence:

I/LIT0301P MD3000 Manual English Iss.22
Issued: 03/05/13

Introduction

Thank you for purchasing your automatic film processor from Velopex.

In order to maintain the quality of our product and your processing it is important that you follow the instructions contained in this user manual. This will ensure a long life for your processor.

The processor could be dangerous if incorrectly installed or maintained outside the instructions set out in this manual and the warranty will be voided.
There are no operator serviceable parts inside the machine. This equipment can only be serviced by technically qualified engineers, trained on Velopex machines, and is not designed to be serviced by the end user other than as specified in this manual.

Note: Panel and Label colours and designs may vary.

Contacts

Medivance Instruments Limited
Barretts Green Road, Harlesden
London, NW10 7AP, UK
Tel: +44 (0)20 8965 2913
Fax: +44 (0)20 8963 1270

Velopex International
14 route de Montreuil le Gast
B.P.45, 35520 Melesse, France
Tel: +33 (0) 2.99.13.22.59
Fax: +33 (0) 2.99.13.22.60

Contents

Safety Instructions

⚠

WARNING:

1. Do not plug into the electrical mains power supply before reading this manual.
2. Use assistance when unpacking and putting the machine in place.
3. Do not move or transport machine with liquids inside.
4. A well ventilated position is mandatory.
5. Do not use in the presence of flammable anaesthetic gases.
6. Use only the Power cable supplied with your machine.

ATTENTION:

1. Ne jamais raccorder cet appareil sans au préalable avoir lu ce manuel.
2. Demandez l'assistance d'une tierce personne pour sortir la machine de son emballage et positionnez-la sur son plan de travail.
3. Ne pas déplacer ou transporter la machine avec des liquides à l'intérieur.
4. Un lieu bien aéré est obligatoire.
5. Ne pas utiliser en présence de gaz inflammables d'anesthésie.
6. Utilisez uniquement le câble d'alimentation fourni avec votre machine.

Table of Symbols

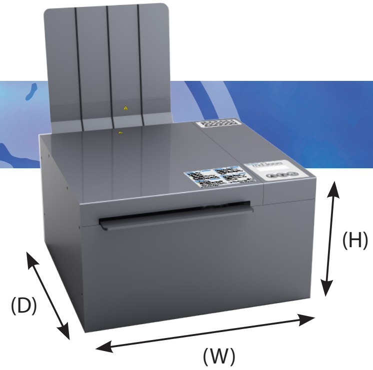
Symbols located on the machine

Symbol	Description
~	Alternating Current Courant alternatif
○	Off Éteindre
I	On Allumer
	Attention / Warning - Refer to Manual Attention, se référer au manuel de l'utilisateur
	Attention / Warning - Hazardous Voltage Attention, courant haute tension
	Attention / Warning - Hot Surface Attention, surface chaude

Symbols used within manual

	Tip
	Attention / Warning - Refer to Manual Attention, se référer au manuel de l'utilisateur
	Touch to operate
	Scroll UP Button
	Scroll DOWN Button
	Select Button
	Heavy Lourd

Specification



Width (W)	60 cm
Depth (D)	70 cm
Including Loader	100 cm
Height (H)	33 cm
Including Film Catcher	66 cm
Weight	
Empty	40 Kg
Full Tanks	55 Kg
Including Loader	70 Kg
Tank Capacity	0.5 - 4 Litre
Operating Temperature	
Developer	25 °C - 30 °C
Fixer	25 °C - 30 °C
Water	Ambient temperature
Warm-up Time	20 Minute Average *
Clean cycle	1.2 Litre
Deep clean cycle	4.5 Litre
Film Feed Speed	350 x 430 mm
Variable Processing Time	1.5 - 8 Minute

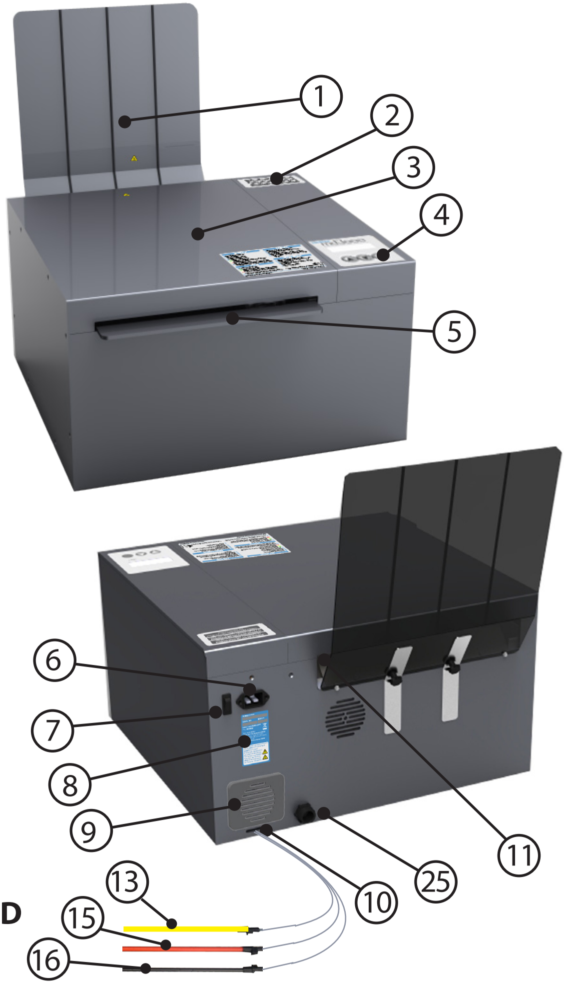
Electricity Supply **		200-240 V, 50 Hz
Input Power **		1515W
Environmental Conditions	Indoor use Only	
Environment Temperature	10 °C - 27 °C	
Maximum Relative Humidity	80%	
Maximum altitude	2000 m	

* Dependent on machine environment temperature.

** Machine installation: Use a qualified electrician and with reference to the local electrical codes.

Identifying your machine

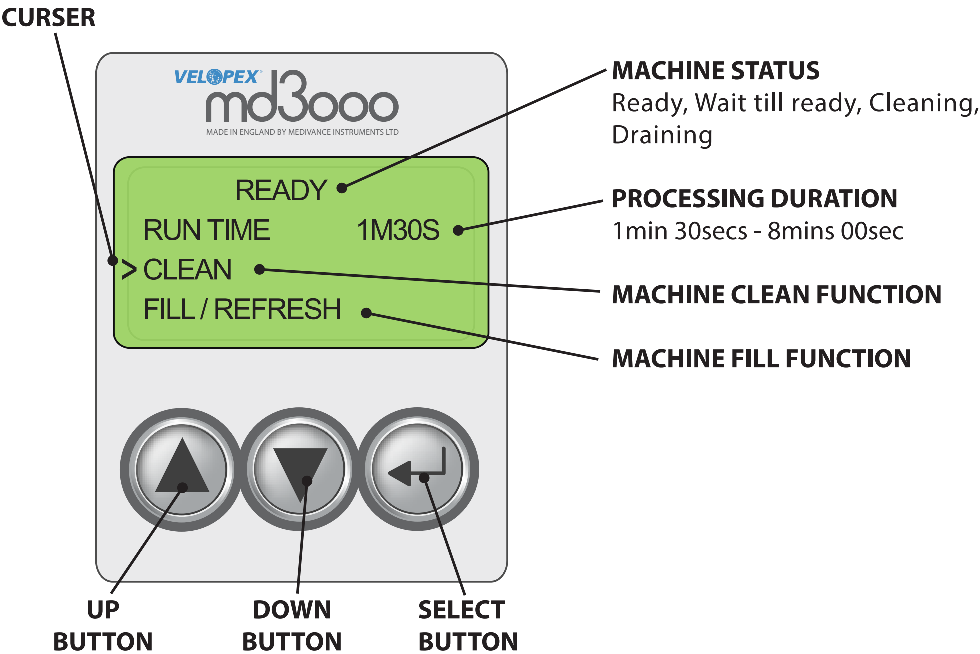
1 Film Collector
2 Warning Label
3 Lid
4 Control Panel
5 Film Entry
6 Power Socket
7 On / Off Power Switch
8 Serial Label
9 Air filter cover
10 Tube Inlet / Outlet
11 Film Exit
12 Waste Straw (Brown)
13 Cleaning Solution Straw (Yellow)
14 Fresh Water Straw (Blue)
15 Fixer Chemical Straw (Red)
16 Developer Chemical Straw (Black)
17 UK - Electricity Supply Cord
18 Continental - Electricity Supply Cord
19 USA - Electricity Supply Cord
20 Cleaning Tablets
21 User Manual
22 Warranty Registration Card
23 Vischeck Reader
24 Air filter
25 Mains Water Inlet
26 Mains Water Inlet Hose (Green)
27 Water Outlet Hose (Blue)
28 Developer Outlet Hose (Black)
29 Fixer Outlet Hose (Red)



MACHINE ACCESSORIES SUPPLIED

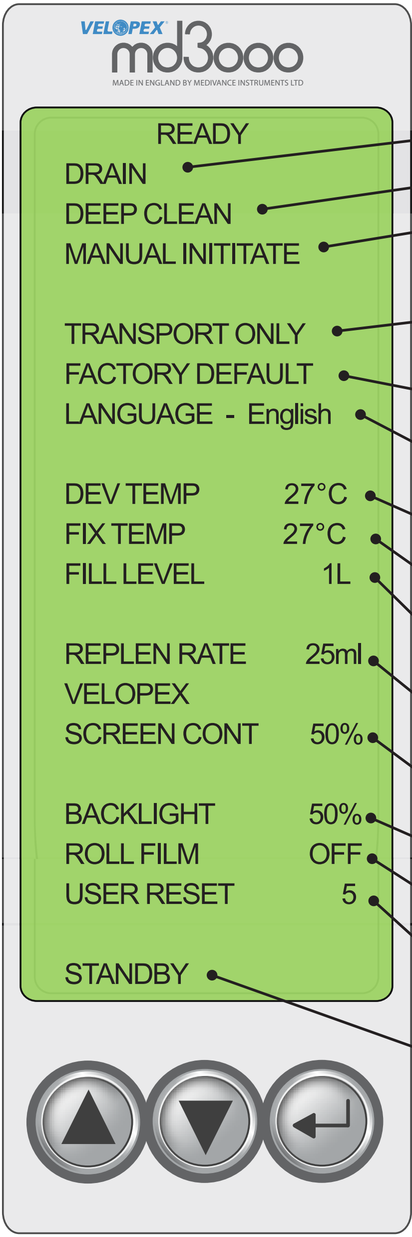


Control Panel



To adjust settings, press and hold for four beeps.
The STATUS will read "ADJUSTING SET POINT."
To accept a change press once.

Control Panel Extended Menu



EXTENDED MENU
Use the Up & Down buttons to locate settings and functions

MACHINE DRAIN FUNCTION

MACHINE DEEP CLEAN FUNCTION

MACHINE MANUAL INITIATE
For use in the event of beak initiation failure

TRANSPORT ONLY FUNCTION
Deactivates the machine leaving only the film transport system

FACTORY DEFAULT
Default machine settings

LANGUAGE
Hold for 4 beeps to change language

DEVELOPER CHEMICAL TEMPERATURE
25°C - 35°C

FIXER CHEMICAL TEMPERATURE
25°C - 35°C

TANK CHEMICAL VOLUME
0.5 Litre - 4 Litre

CHEMISTRY REPLENISH RATE
25ml - 300ml per cycle.

SCREEN CONTRAST

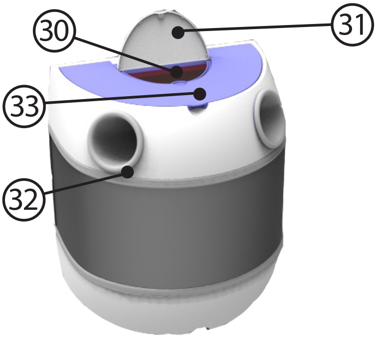
SCREEN BACKLIGHT
Adjust standby & active backlight

ROLL FILM
Setting to process 1-4m of Roll film

USER RESET
Machine error user reset counter

STANDBY
Function allows the machine jump to Ready mode.

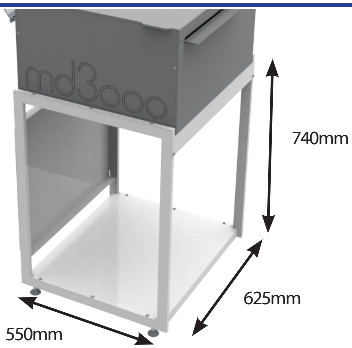
Optional Extras



VELOPEX Daylight Loader

30 Daylight Loader Viewing Window
31 Viewer Cover
32 Hand Entry Port/Glove
33 Daylight Loader Lid

STANDARD : I/MAC 6007F
FULL CHEST : I/MAC 6008F

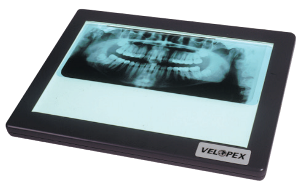


VELOPEX Machine Stand

I/MAC 9105F



VELOPEX Viewers



Consumables

VELOPEX
Processing Chemical



VELOPEX
Film





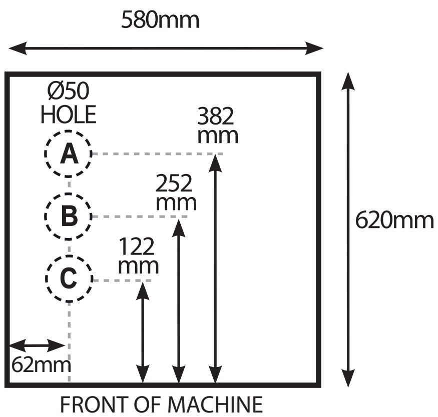


VELOPEX
Vischeck Reader
Vischeck Strips

READER: I/MAC 7008F
STRIPS: I/FLM 7002F

Pre-Installation Instructions

MINIMUM WORK TOP DIMENSIONS & ACCESS HOLE FOR DRAIN PIPES



MINIMUM WORK TOP LOADING:

70KG





• **Unpacking the VELOPEX**

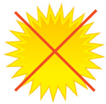
NOTE: For unpacking and lifting the machine into position it is important to have assistance. A two person lift is reccommended.

1. Familiarise yourself with the layout of the machine by referring to the images as you progress through the manual.
2. Lift the machine from the carton and position on counter top. Remove outer and inner packaging. The transport modules are protected by internal packing pieces: these must be discarded.

Pre-Installation Instructions

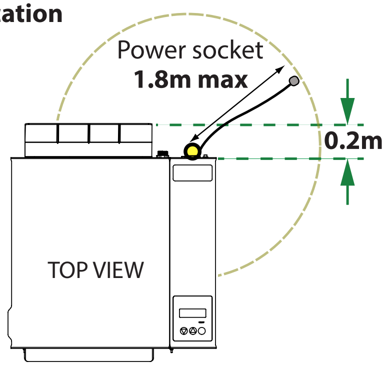
- **Siting of the VELOPEX**

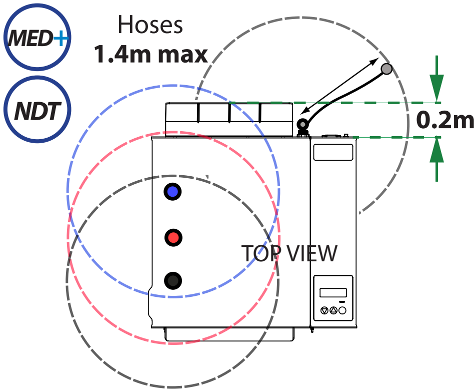
When using the machine in daylight or a darkroom, avoid sources of intense light. Do not mount the unit under a window, fluorescent light or flood lamp.



IMPORTANT NOTE: A well ventilated position is mandatory.

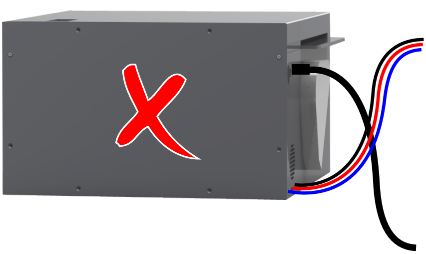
- **Location**

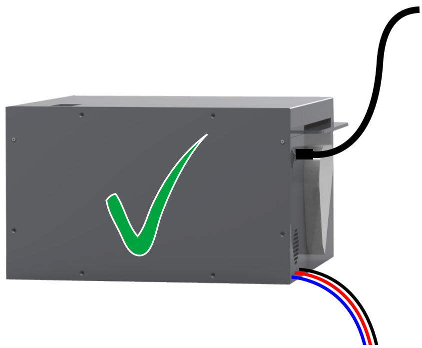




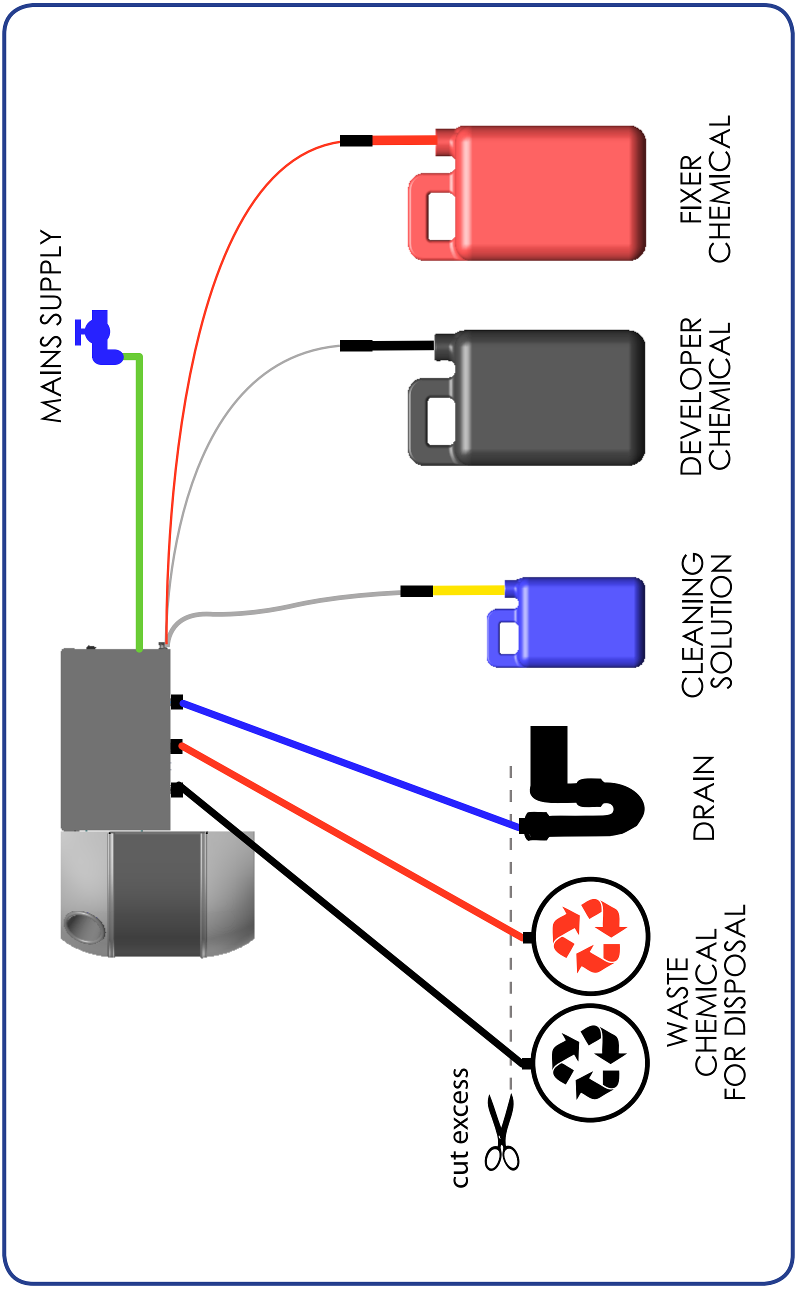
IMPORTANT NOTE: *Do not move or transport machine with liquids inside.*

- **Electrics**

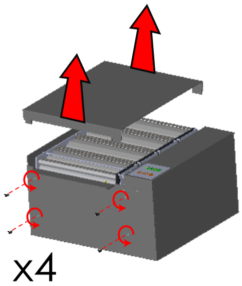




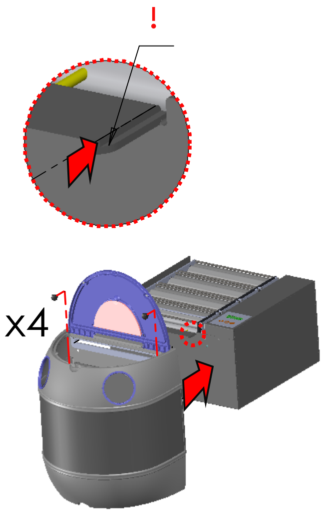
Plumbing


MAINS SUPPLY
FIXER CHEMICAL
DEVELOPER CHEMICAL
CLEANING SOLUTION
DRAIN
WASTE CHEMICAL FOR DISPOSAL
cut excess

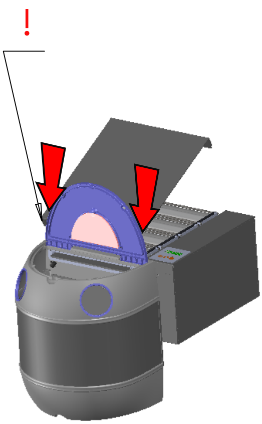
Daylight Loader Installation



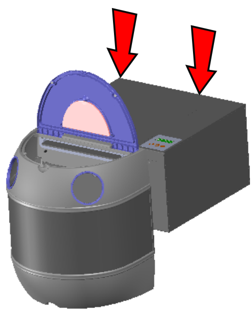
1.



2.

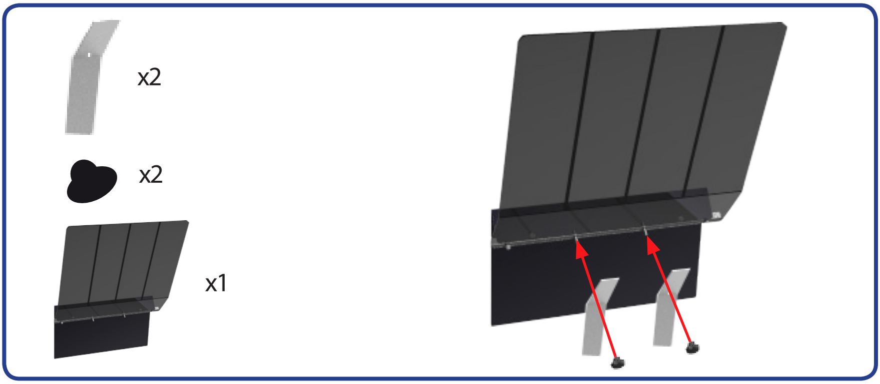


3.

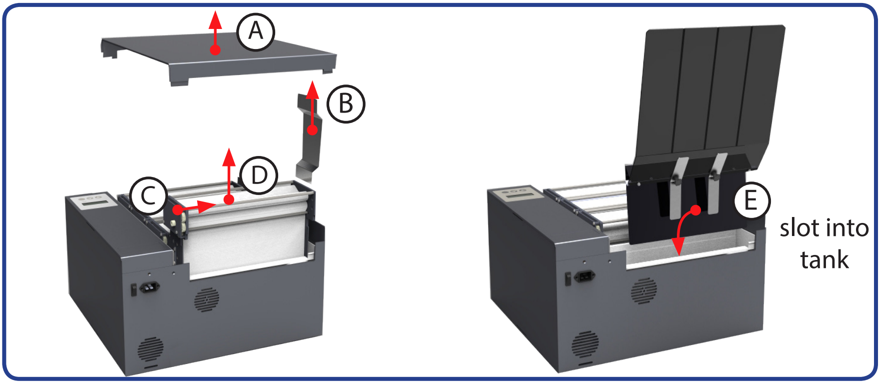


4.

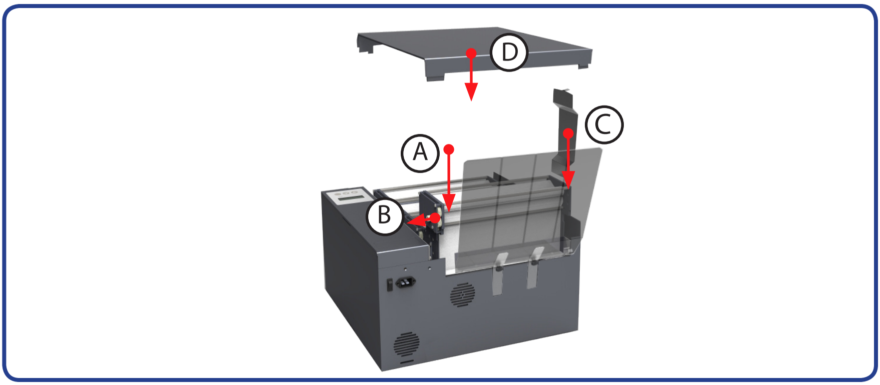
Film Catcher Installation



1.

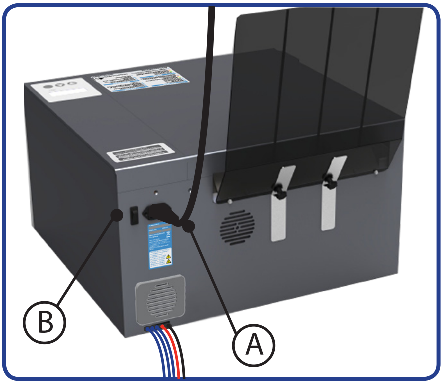


2.



3.

Operating the Processor



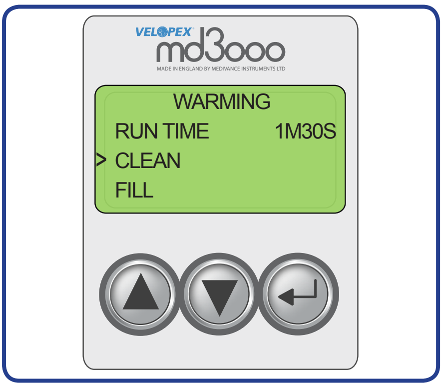
1. **Check that you have set up your Plumbing and Electrics correctly, see Page 4, 10-12. Switch on the mains power supply.**



2. **“WARMING”- Go to step 3.**

“PURGING” & “EMPTY” -
Using the DOWN button scroll to FILL in the menu. Press and hold the SELECT button . The machine will beep four times and when you hear the fourth beep, the status at the top of the display will read “FILLING.”

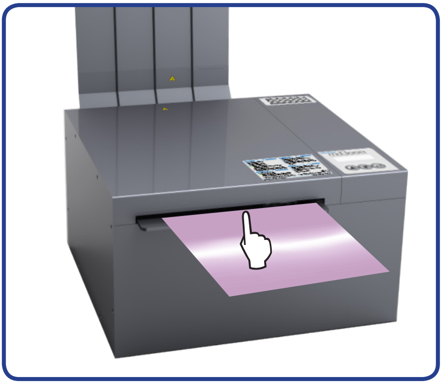
TIP: *To adjust fill level see Page 17.*



3. **“WARMING” - Wait for your machine to display “READY” on the top line of your Control Panel.**

TIP: *Turn the machine on 30 minutes before you need to process to allow the machine to warm up. Times will vary depending on machine settings and environmental temperatures.*

Operating the Processor



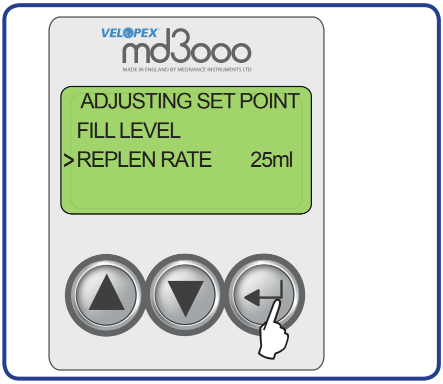
4. **If your machine is fitted with a Daylight Loader, ensure the Blue Lid and the Grey Flap are closed. Insert your hands fully into the gloves. Insert your film and keep your hands in the gloves until the film has entered the machine fully.**

Feed films squarely into the film entry slot. Touch the Film Entry Slot to initiate processing.



5. **All films are collected in the Film Catcher at the rear of the machine.**

TIP: *If fitted with a Daylight Loader, ensure that you leave the lid open AFTER the film has exited the machine. This will reduce condensation inside the Daylight Loader.*

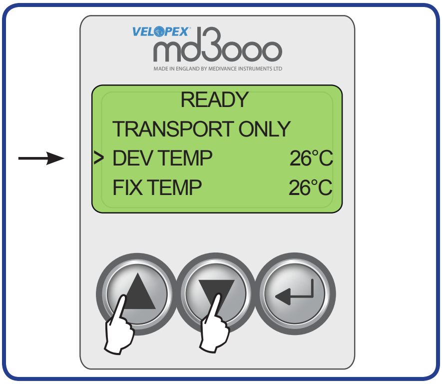


6. **The machine will automatically refresh its chemistry every time a film is entered.**

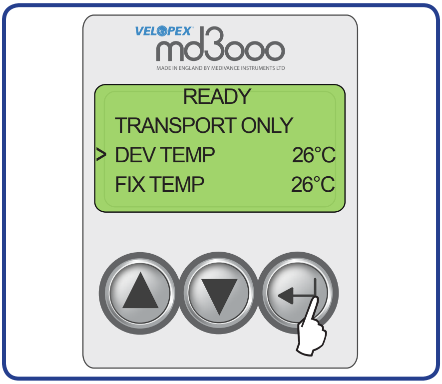
To adjust the chemical refresh rate press and hold the 'REPLEN RATE' function in the menu. The machine will beep four times and when you hear the fourth beep, the status at the top of the display will read "ADJUSTING SET POINT."

Select your rate dependent on film type and press ENTER to accept. If unsure, speak to your dealer for suggested replenishment rates.

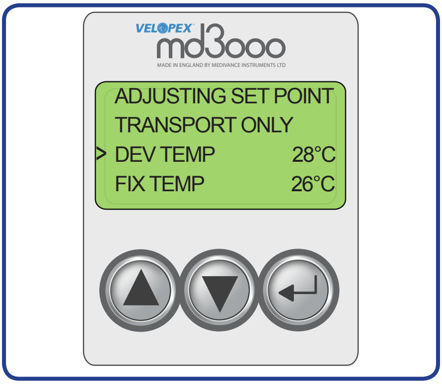
Adjusting Settings



1. **To locate the setting, use the UP & DOWN buttons.**



2. **Once you have the curser in line with the setting required, press and hold the SELECT button. The machine will beep four times and when you hear the fourth beep, the status at the top of the display will read "ADJUSTING SET POINT."**



3. **Use the UP & DOWN buttons to adjust the setting. Then press the SELECT button to accept the change.**

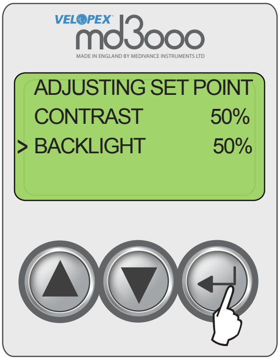
Adjusting Settings



4. **Press the Film Entry Slot to recirculate the chemistry and adjust its temperatures.**

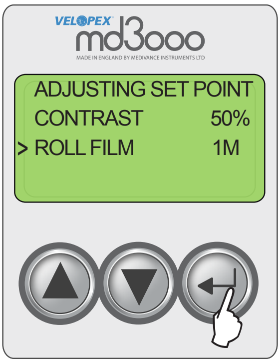
The machine does not actually cool the chemicals. Enough time must be allowed to let natural cooling occur. The set temperatures will not drop below room temperature.

To adjust fill levels you will have to empty and refill your machine.



5. **To adjust the Active Backlight, hold the enter button for four beeps. When the status shows Adjusting Set Point use the up and down arrows to adjust. Press Enter to accept.**

To Adjust the Standby backlight, leave the curser on Backlight. Wait for a few seconds for the backlight level to change. It will either dim or increase. Then make the adjustment as instructed above.

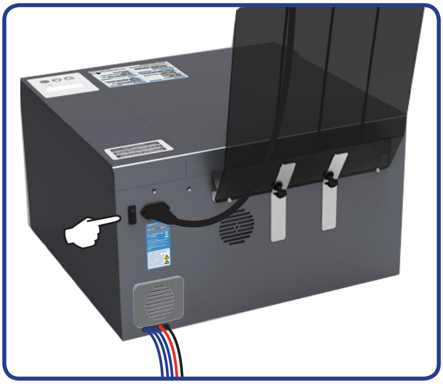


6. **To process Roll film, hold the enter button for four beeps. When the status shows Adjusting Set Point use the up and down arrows to select 1-4m or OFF. Press Enter to accept.**

The processing time is pre-set and will automatically change to accommodate the length of film selected.

TIP *: The machine will replenish it's chemistry at the end of the cycle. Set adequate replenish rate before processing.*

Shutdown



1. **Switch off the machine from the mains switch and wall isolator.**

Turn off the mains water supply to your machine.



TIP : *It is recommended that a CLEAN cycle is run every night before turning off the machine.*

Chemical Replacement



1. **It is suggested that the VISCHECK Quality Manager be used to ensure consistent quality X-Rays.**

TIP: *Regular use of this product will ensure the quality of the film processing and reduce the risk of retakes. Vischeck will also tell you when to change the chemicals.*



2. **To replace exhausted chemical, refer to Transport Cleaning on page 21. This will ensure that your fresh chemistry will not be contaminated with exhausted chemistry and increase the life of your machine.**

Transport Cleaning



CLEANING SOLUTION

5 litres water : 1 Velopex tablet

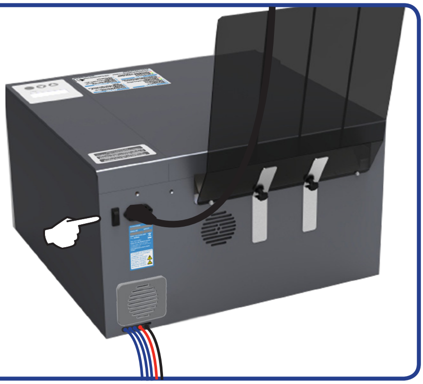
1. **Refer to Plumbing Layout on page 12 & ensure that your plumbing is correct.**

Fill the Cleaning Solution bottle with fresh water. Add one cleaning tablet to 5 litres of water. If you are using a waste container ensure that it is empty.



2. **Using the UP or DOWN buttons scroll to CLEAN in the menu. Press and hold the SELECT button to start the cleaning cycle. The machine will beep four times and when you hear the fourth beep, the status at the top of the display will read "CLEANING."**

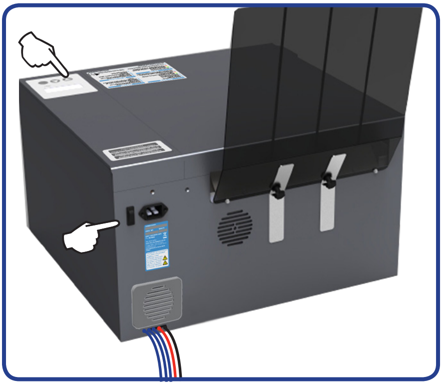
TIP: *Depending on how regularly your machine is used. Run a Deep Clean, which will use 5 litres of cleaning solution.*



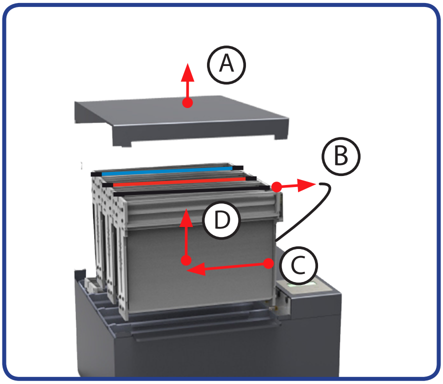
3. **Once the machine has completed its cleaning cycle the machine status will read "EMPTY. Refill your machine with fresh chemical, using the Control Panel.**

To Refill select "FILL" In the menu.

Transport Module Belt Cleaning



1. **DRAIN your machine using the Control Panel then switch off your machine when empty.**



2. **Remove the module lid by lifting it upwards. Press the ring where the tube meets the spreader bar to disconnect. Remove the Developer, Fixer & Water modules by sliding sideways and lifting up. Do not remove the Dryer Module.**

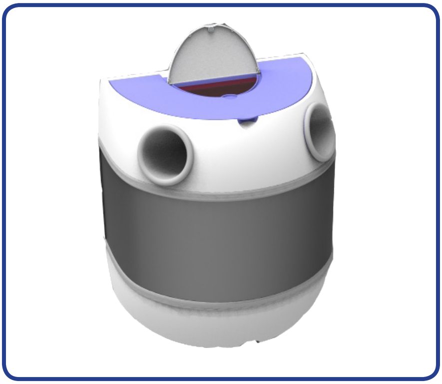


3. **Wash each module in fresh water and attempt to turn the module using the turning knob. This will clear the solidified chemistry from the belts.**

Replace the modules into the correct tanks, spreader bars and run a CLEAN cycle.

NOTE: *If the incorrect module goes into the incorrect tank it will risk chemistry contamination.*

Exterior Cleaning



1. **Remove debris from inside the daylight loader. Wipe the interior of loader.**

__TIP:__ The interior of the daylight loader should be cleaned with cold sterilising solution, wipe dry after appropriate period.



2. **Ensure your machine is switched off.**

Wipe down the machine with a damp cloth.



3. **At the rear of the machine, there is a Air Filter cover attached with magnets. Remove it by sliding it from the rear panel.**

Wash the filter with cold water and replace when dry.

__TIP:__ There is a spare filter supplied with your machine. Alternate while the other one is drying.

__NOTE:__ Ensure your machine is switched off. Do __not__ replace wet.

Error Messages



Error Message	1	Action	Page ref.	2	Action
Lid Open		Ensure the Lid is on correctly			Service machine immediately
Transprt Drive Flt		Remove transport modules and clean	22		Service machine immediately
Dryer Sensor S/C					Service machine immediately
Dryer Sensor O/C					Service machine immediately
Dryer Over Temp					Service machine immediately
Dev Sensor S/C					Service machine immediately
Dev Sensor O/C					Service machine immediately
Dev Over Temp					Service machine immediately
Dev Level Low		Check that your supply bottle is not empty	12		Service machine immediately
Dev Levl snsr Flt					Service machine immediately
Fixer Sensor S/C					Service machine immediately
Fixer Sensor O/C					Service machine immediately
Fixer Over Temp					Service machine immediately
Fix Level Low		Check that your supply bottle is not empty	12		Service machine immediately
Fix Levl snsr Flt					Service machine immediately
Water Level Low		MED model: Check that your supply bottle is not empty	12		Service machine immediately
		NDT model: Check that your mains water supply is on	12		Service machine immediately
Wat Levl snsr Flt					Service machine immediately
Critical Error*					Service machine immediately

*Pressing the Beak will activate a User reset. After 5 attempts the machine will be locked and will need to be serviced. Only the film transport system will function. This will allow films to be processed wet.

Problem Solving

No.	SYMPTOM	POSSIBLE CAUSE	ACTIONS
1	Machine does not operate	Power Supply	Check Mains Power is plugged in and supply switched on. NOTE - Velopex Machine will run one cycle when switched on and lid in correct position.
		Machine is in 'standby' mode	Check by swiping finger across the Entry guide that machine is not in
		Blown Fuse	Call for Service
		Lid Open - Displayed	If the lid is not correctly closed, the safety mechanism will prevent the machine from operating. Check by opening and closing again. Otherwise call for service.
2	xx		xx
3	xx		xx
4	Films Do Not Enter through Film Entry Guide.	Machine is in 'standby' mode	Swipe finger across the Entry guide - machine may be in 'standby' mode.
		Transport Modules not in Place	Open machine lid and check engagement of transport modules.
5	Film Lost in the Machine	Transport Modules not in Place	Check that the transport modules are correctly located in their drive dogs and running correctly. If not, re-located.
		Wrong Positioning of Transport Module Spring	Check the springs on the modules for correct positioning. Use the module turning tool to rotate the belts for inspection and run a test film through the module using this tool.
		Dirty Transport Modules	Check that all transport modules have been put through the correct cleaning procedure.
		Damaged/Torn Belt	Replace a Module
		Static Electricity in the Dryer Section of the Machine	Add a little domestic fabric softener to the washing water when washing dryer module to avoid 'static'. IMPORTANT: Fabric softener should be used on the Dryer Module ONLY - do NOT use it on the Developer, Fixer or Water Modules.

Problem Solving

TROUBLE SHOOTING

No.	SYMPTOM	POSSIBLE CAUSE	ACTIONS
6	Films too Dark		
	Test for light fog by feeding an unexposed film through the machine. It should process as a transparent piece of film base and there should be no shadows or blackness on it. REGULAR USE OF VISCHECK IS THE BEST TOOL FOR EARLY DIAGNOSIS OF PROCESSING AND X-RAY PROBLEMS.		
	There is Light Fog	Lid Open	Check that the top lid is firmly in place (no lid display on).
		Darkroom not Light-Tight	Check that the darkroom is light-tight, and that the safe light is sound (e.g. process a test film with safe light off).
		Daylight Loader not Secured	Check that the daylight loader is firmly secured, including removal of cover tapes from self-adhesive mounting.
		Light Leaks	When the Daylight loader is used, ensure that the machine has not been sited in direct sunlight or in intense lighting conditions (e.g. directly under spotlights or strip lights).
			Do not remove your hands out of the hand entry ports before the film has fed completely into the machine (fog at one end only of the film indicates premature removal of hands from daylight loader).
			Check that window cover on loader has been correctly replaced and check at hand entry ports to ensure there is a good light seal around the wrists - if not, call for service.
		Close to X-ray Source	Check whether films have been stored too close to X-ray source, and re-locate/replace.
		Film Box Lid open	Check that lid has not been left off film box: i.e. process one film from a new box of film.
		Film Expired	Check Expiry date on film box to ensure films are not out of date. (Keep films in cool, dry place: excessive heat can cause premature ageing of film).
	Dark Film	Chemical Contaminations	Check that there has been no chemical mix-up, leading to cross-contamination.
		Mixing of Developer	Check that the Developer has been correctly mixed (if relevant).
		Temperature	Ensure that you set the chemical temperature to the settings recommended by the supplier of the chemical and film you are using.

Problem Solving

No.	SYMPTOM	POSSIBLE CAUSE	ACTIONS
7	Films too Light	Chemicals Exhausted	Replace with fresh chemical (this will depend on volume of film being processed and length of time since last chemical change).
		Chemicals Contaminated	Clean machine, replace chemicals with fresh solutions.
		Developer Incorrectly Mixed	Replace with fresh (if relevant).
		Chemical Level too Low	Adjust the FILL setting on the machine Control Panel.
		Temperature too Low	Adjust the chemical temperature settings on the machine Control Panel.
		Film Exposure	Check films have been exposed correctly.
		Film Compatibility	Check that the films are compatible with the type of intensifying screen used with the x-ray machine.
8	Films Dirty or Marked	Water Tank Dirty	Drain the machine. Refill the Water container with fresh water. Run a cleaning cycle with two cleaning tablets in the Water container. Drain and Refill the Water container with fresh water.
		Transport Modules Dirty	Check transport modules are being cleaned correctly (see cleaning instructions above).
		Chemical Level too Low	Adjust the FILL setting on the machine Control Panel.
		Wrong Position of Modules	If found in wrong order, contamination will have occurred. Thoroughly clean modules and tanks; re-fill with fresh chemicals.
		Light Leaks	Check for stray light entering machine - proceed as for fogging (see symptom # 6).
9	Sudden Change in Image Density	Wrong Solutions	Make sure the Plumbing of your machine is correct. See Plumbing section of this manual.
		Developer Contamination	Replace Developer if contaminated with Fixer.
		Temperature	Check Developer temperature
		X-ray Unit	Check X-ray unit.

Problem Solving

No.	SYMPTOM	POSSIBLE CAUSE	ACTIONS
10	Film not Drying	xx	0
		xx	0
		Dryer	Make sure Dryer is working and blowing hot air.
			Check that the Fan inlet is not blocked.
		Humidity	Look for poor air circulation or HIGH humidity in processing area.
		Electrical Component	Check Control Panel for Error messages
11	Deposits on Film		
	White Scum	Water Flow	Check for very low wash water flow rate.
		Fixer	Check for contaminated or wrongly mixed Fixer.
		Fixer Deposits	Check for Dryer Module contaminated by fixer deposits.
	Black Parallel Lines	Dirt	Clean entry slot or feed guides.
			Clean bridge-over rollers.
			Run a clean cycle.
		Belts Jammed	Check belts are turning properly.
12	Dark Areas on Film	Kinking the film	Check Intensifying screens in cassette for dirt.
		Static Damage	Takes the form of dots, fern-like lines or lightening strikes; check for LOW ambient humidity in processing area. Clean area with anti static solution.
13	Light Areas on Film		
	White Opaque Patches on Low Density Areas (Indicates Lack of Fixing)	Temperature	Check Fixer temperature on the Control Panel.
		Fixer	Check for exhausted fixer by running a Vischeck strip.
		Water Flow	Check water flow in wash tank.
	Light Spots in Exposed Areas	Dirt in Cassette	Check for dirt on intensifying screens in film cassette.
		Cassette Screen	Poor screen contact.

Problem Solving

No.	SYMPTOM	POSSIBLE CAUSE	ACTIONS
14	Mottle	Dirty Transport Modules	Clean Modules
			Run a clean cycle.
		Film Expired	Check age and storage conditions of film.
		Light fogging	See above Symptom # 6
15	Films coming Out Wet	Air Coming Out of the Vent is NOT Warm	Check for Error Messages on the Control Panel. Contact your dealer if the problem persists.
16	Contamination	Chemicals	Ensure that the machine is CLEANED and DRAINED before changing chemicals.
			The Water container must be refilled with fresh water once a week or more often depending on the quantity of films being processed.
17	Abnormal Odour, Overheated or Unusual Noises		Immediately switch processor off and unplug from Mains Power Supply. Contact your supplier.

Date	Service Description	Serviced By
/ /	*Machine Installation*	
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